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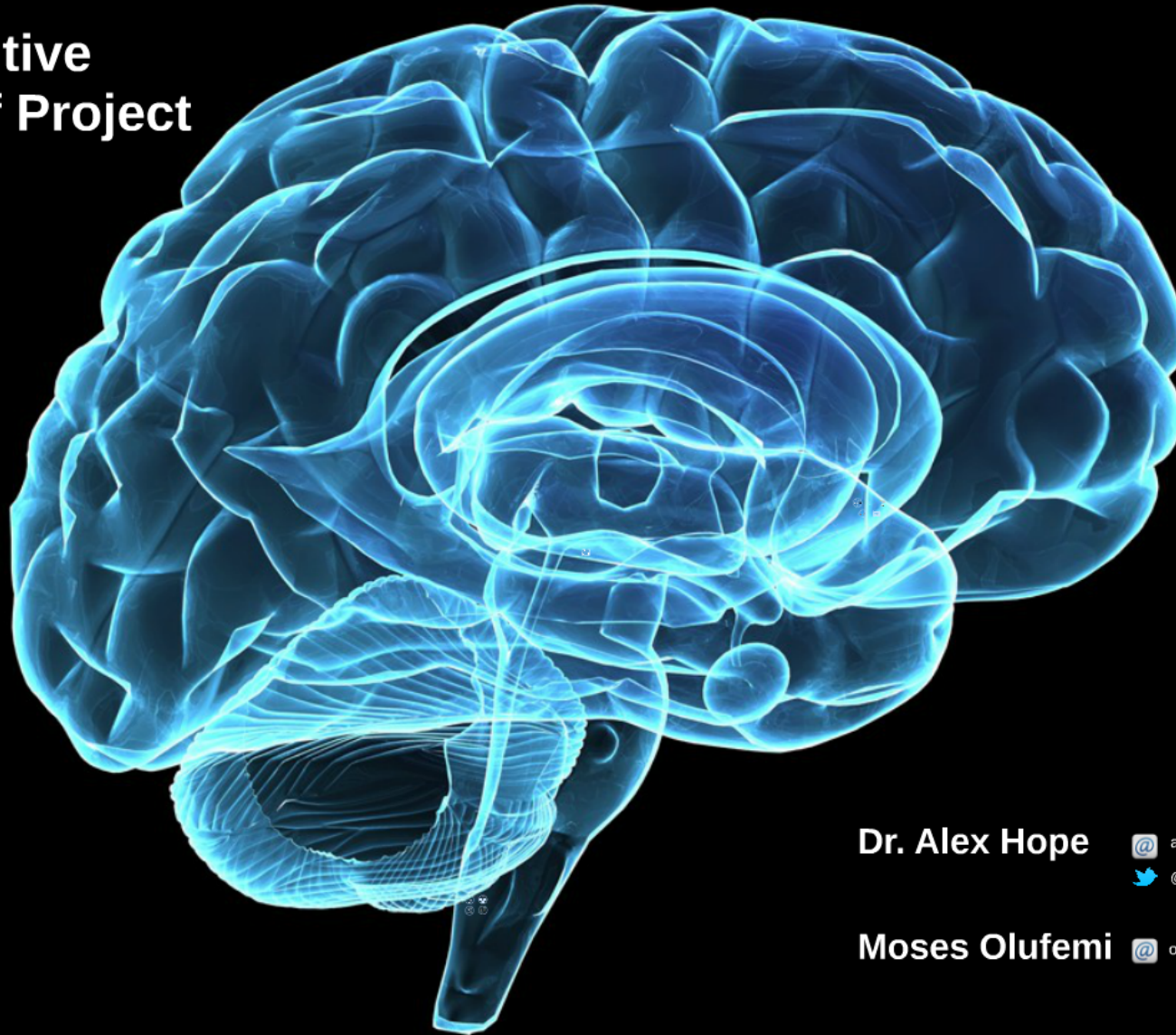


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# A Socio-Cognitive Perspective of Project Failure



**Dr. Alex Hope**

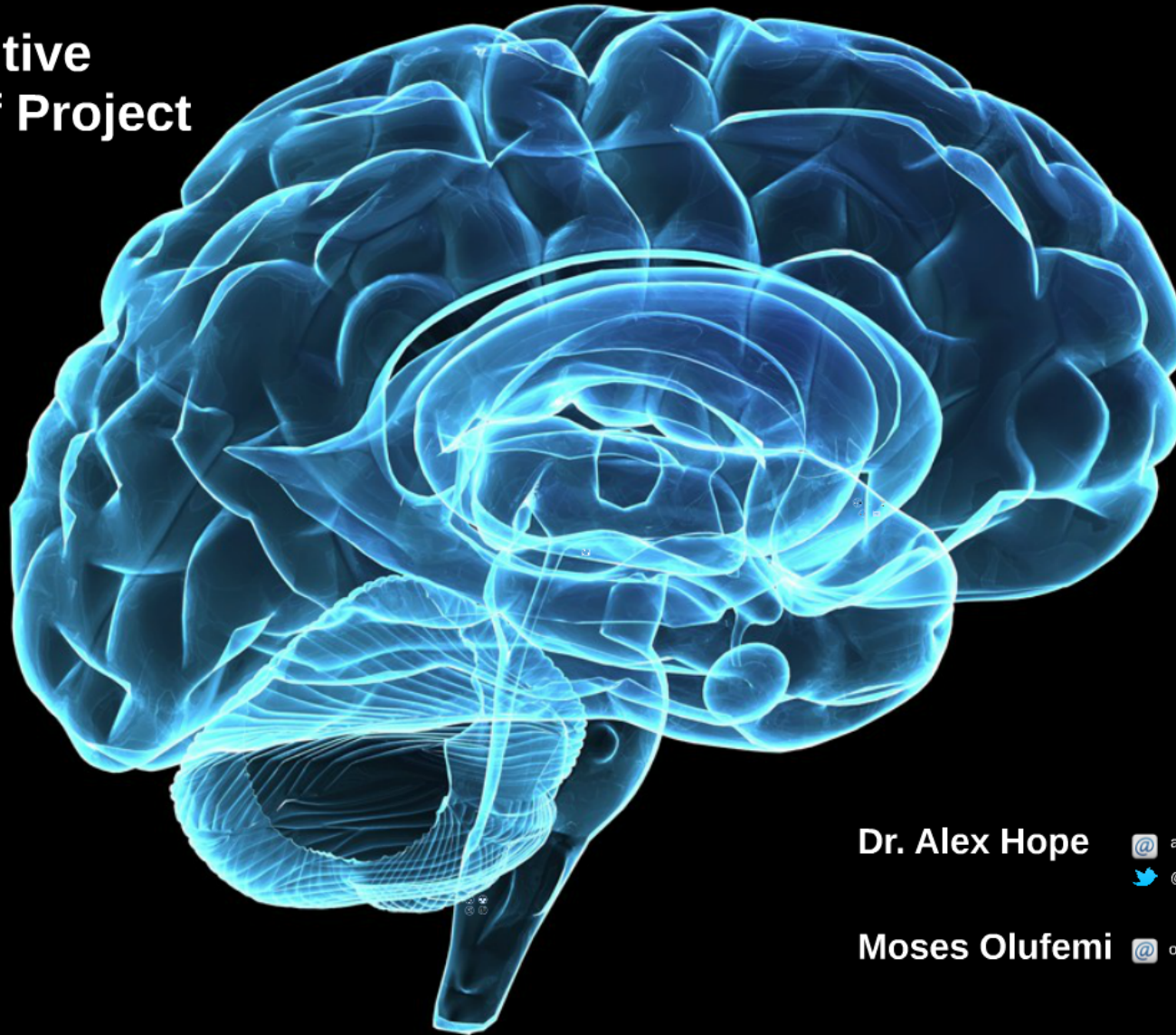
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# A Socio-Cognitive Perspective of Project Failure




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# What is a Project?

"An individual or collaborative enterprise planned and designed to achieve a specific aim"

Wedding



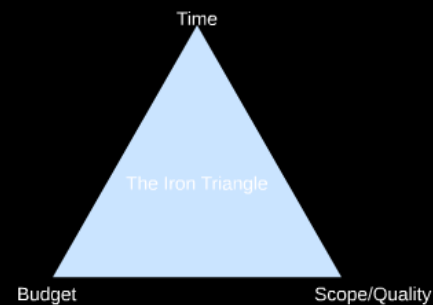
PhD



Infrastructure

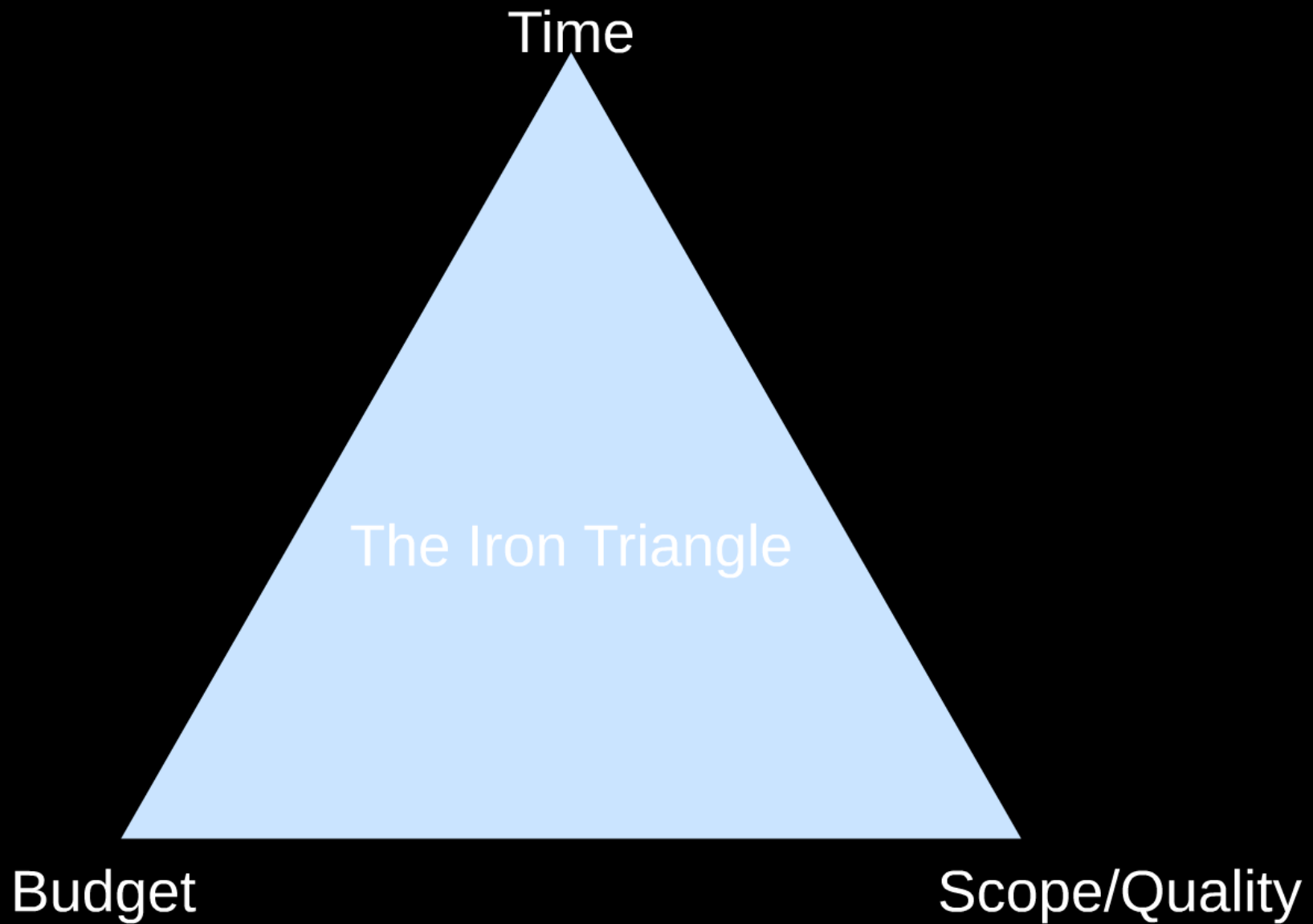


Project Success Criteria





# Project Success Criteria



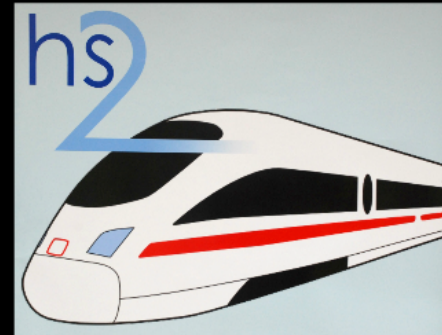
# The problem with projects

They don't always go to plan.....

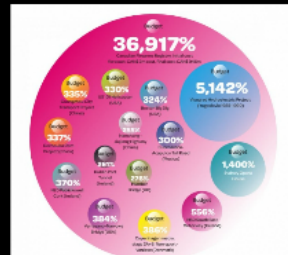
# Project Failure

**88% are past deadline,  
over budget or both...**

HS2 Ltd has overshoot its allocated  
£101million budget by £87million



**Average cost overrun is 189%**



**Average time  
overrun is 222%**

The Boeing 787 dreamliner  
was delivered 3 years late....  
(and \$18B over budget)

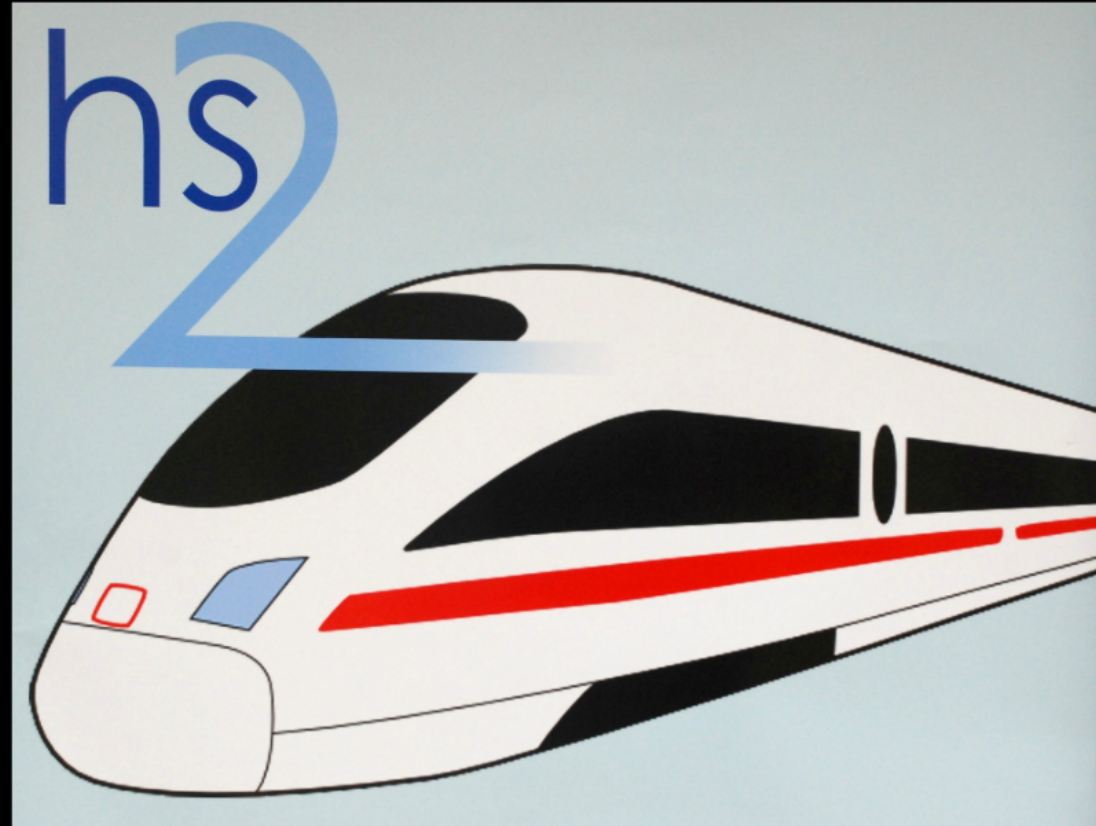


# Project Failure

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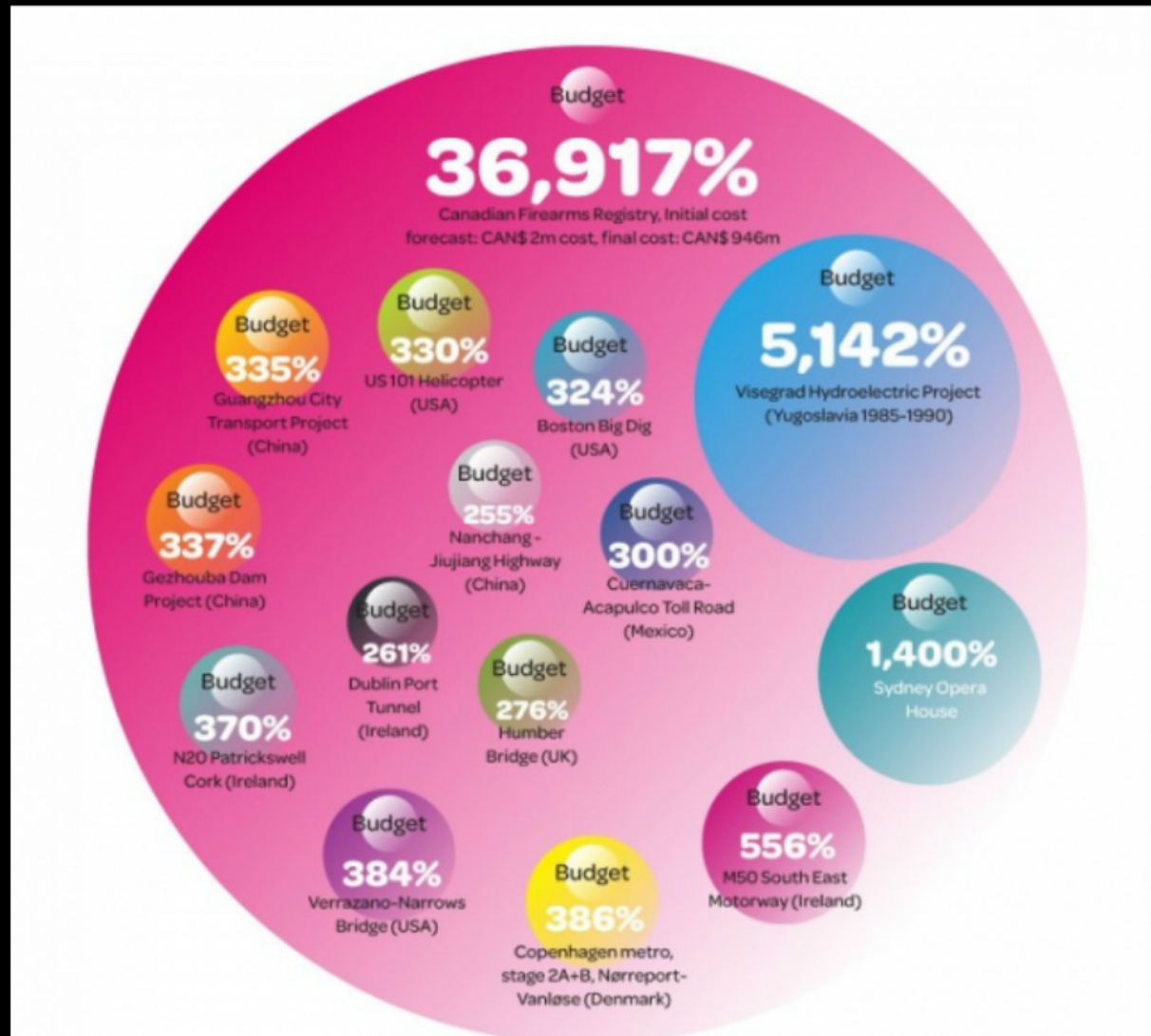
<http://www.telegraph.co.uk/news/uknews/road-and-rail-transport/10433659/HS2-engineering-costs-overshoot-budget.html>



***Average cost overrun is 189%***



# Average cost overrun is 189%



Centre for Major Programme Management, University of Oxford's Saïd Business School; McKinsey and the London School of Economics

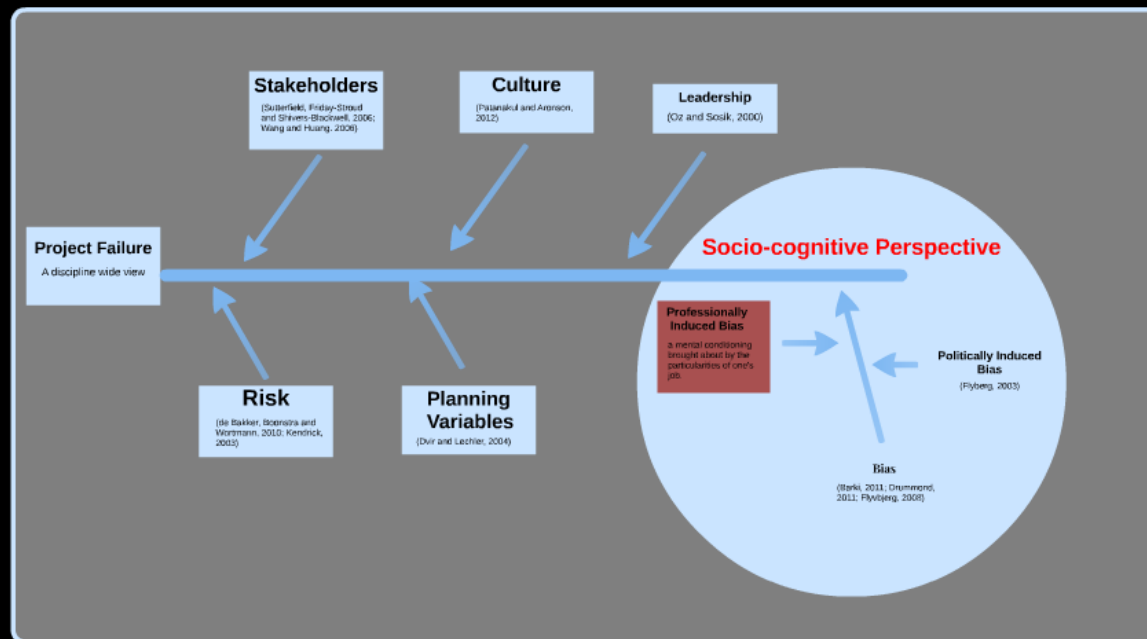
***Average time  
overrun is 222%***

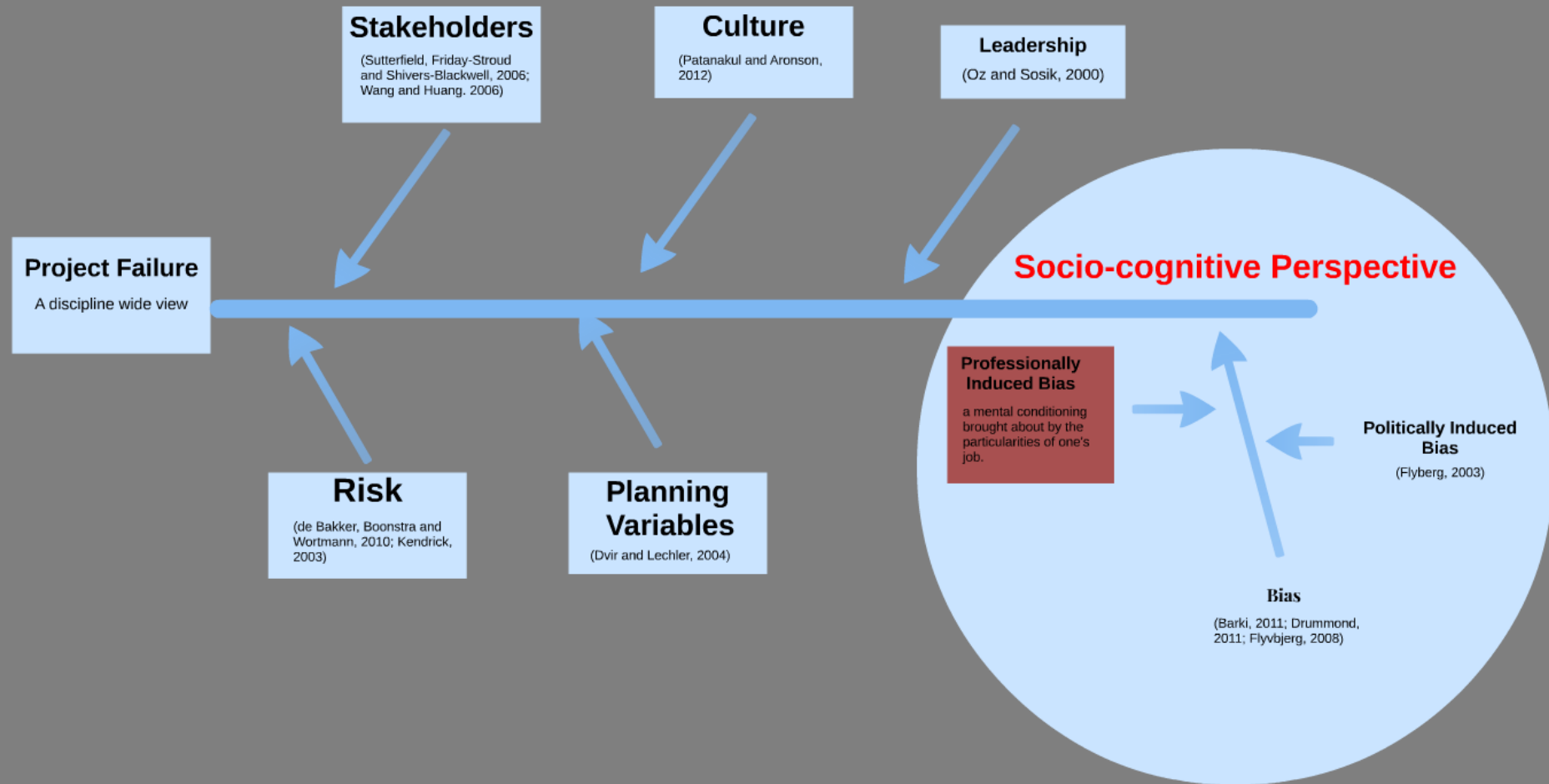
The Boeing 787 dreamliner  
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(and \$18B over budget)

<http://calteam.com/WTPF2p=4617>



# Why do projects fail?







# Socio-cognitive Perspective

The diagram illustrates the Socio-cognitive Perspective on Bias. A large light blue circle contains the main content. At the top, the title 'Socio-cognitive Perspective' is written in red. A horizontal blue line with a rounded end crosses the circle. On the left, a red box contains the text 'Professionally Induced Bias' and its definition. On the right, the text 'Politically Induced Bias' is followed by a citation. At the bottom, the word 'Bias' is centered with its citations. Three blue arrows point towards a central point: one from the top left, one from the left box, and one from the right text.

## Professionally Induced Bias

a mental conditioning brought about by the particularities of one's job.

## Politically Induced Bias

(Flyberg, 2003)

## Bias

(Barki, 2011; Drummond, 2011; Flyvbjerg, 2008)

# Socio-Cognitive Bias

"A cognitive bias is a pattern of deviation in judgment, whereby inferences about other people and situations may be drawn in an illogical fashion"

Socio-cognition theory suggests a triadic determinism of environmental, cognitive and behavioral factors



## Socio-cognition in Project Management

• Social interactions within the project management practice and academic communities are spread through linguistic mechanisms such as the professional body of knowledge

• Mechanisms, such as the body of knowledge, foster expectations (of behavior and actions) and methodologies of achieving them.



## Question

How are project managers influenced by professional bias?

- Personal responsibility
- Proximity to goal
- Norm for consistency
- Sunk cost
- Reputation and incentive
- Overconfidence

## Research Question

How do tools and techniques in the PMBoKs influence or create bias in project management decisions?

Socio-cognition theory suggests a triadic determinism of environmental, cognitive and behavioral factors

Environment



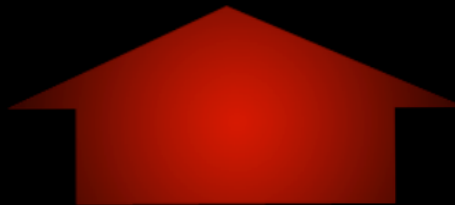
**Individual:  
Personal  
Experiences**

Individuals learn behaviors,  
which inform action,  
judgement and decisions,  
mainly by replicating the  
actions of others

**Collective:  
Corporate  
Culture or  
Function**

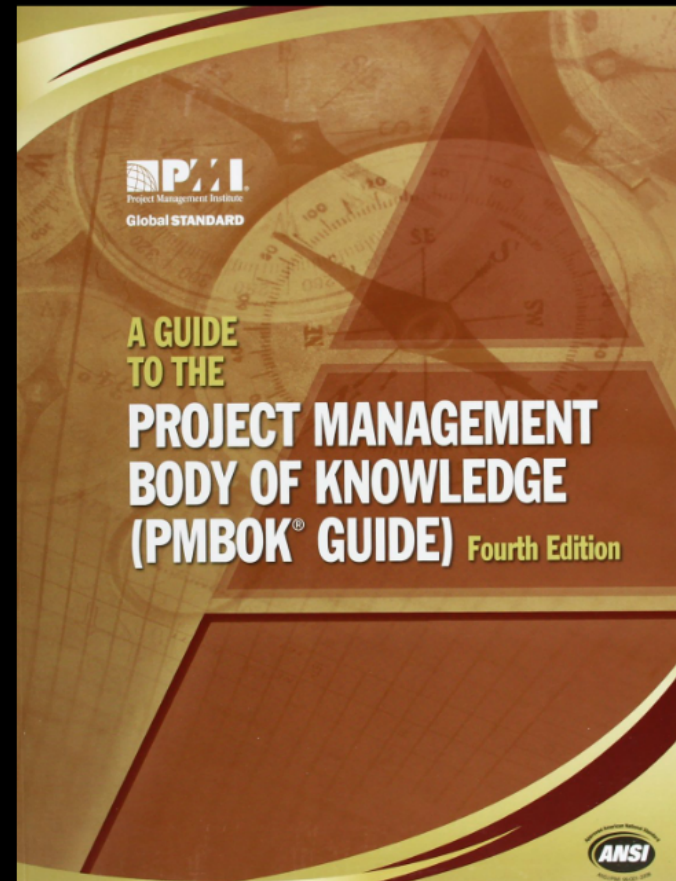
Individuals knowledge is  
acquired through  
observation within social  
interaction

Time



# Socio-cognition in Project Management

- Social interactions within the project management practice and academic communities are spread through linguistic mechanisms such as the professional body of knowledge
- Mechanisms, such as the body of knowledge, cover expectations (of behavior and actions) and methodologies of achieving them.





## Question

How are project managers influenced by professional bias?

- Personal responsibility
- Proximity to goal
- Norm for consistency
- Sunk cost
- Reputation and incentive
- Overconfidence

# Research Question

**How do tools and techniques in the PMBoKs influence or create bias in project management decisions?**

# Method

## Quantitative

## Qualitative

Quasi-Experimental survey

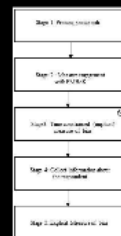
Semi-Structured Interviews

Project Management Bodies of Knowledge

Professional Induced Bias

Refine and explain statistical results

### Survey questionnaire



The questionnaire was designed to measure bias (implicit behavior) which project managers cannot directly link to their experience of the project management body of knowledge.

In order to simulate conditions similar to real life situations, the questionnaire (with the aid of technology) adapts situational and cognitive moderators in an experimental condition.

### Semi-structured Interviews

1. How SHOULD project managers apply the PMBOK?
2. How SHOULD project managers apply the PMBOK in a real world context?
3. How do you think project managers need to know about the PMBOK in order to be successful?
4. How do you think project managers need to know about the PMBOK in order to be successful?
5. What do you think the most important subtopic in a project manager's knowledge is?
6. Why do you think project managers need to know about the PMBOK in order to be successful?
7. How would you describe the most important subtopic in a project manager's knowledge?
8. How would you describe the most important subtopic in a project manager's knowledge?
9. How would you describe the most important subtopic in a project manager's knowledge?
10. How would you describe the most important subtopic in a project manager's knowledge?
11. How would you describe the most important subtopic in a project manager's knowledge?

Sample constrained to PMI Certified PMs



# Quantitative



Quasi-Experimental survey



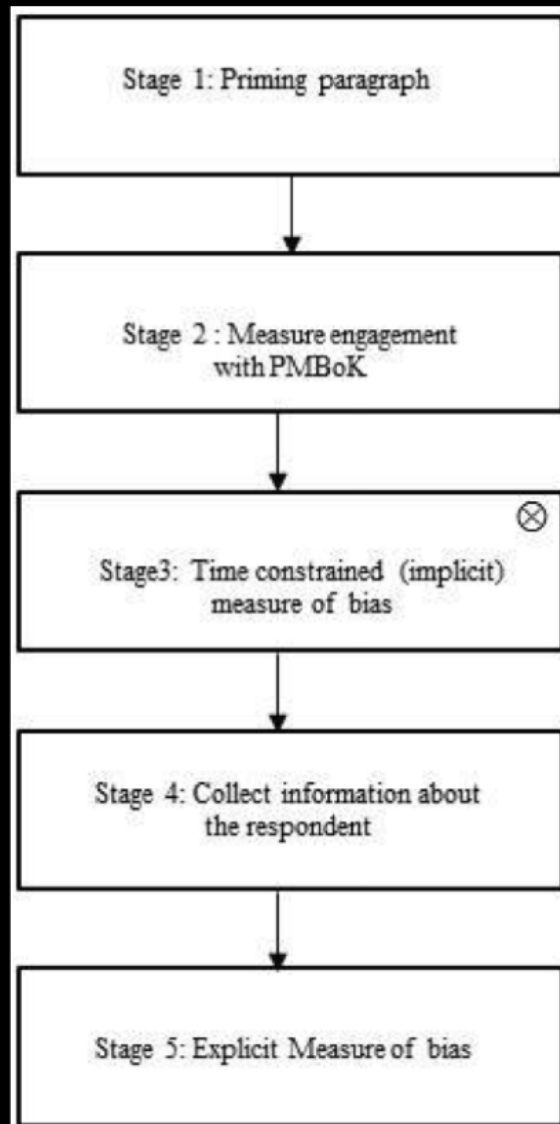
Project  
Management  
Bodies of  
Knowledge



Professional  
Induced Bias



# Survey questionnaire



The questionnaire was designed to measure bias (implicit behavior) which project managers cannot directly link to their experience of the project management body of knowledge

In order to simulate conditions similar to real life situations, the questionnaire (with the aid of technology) adapts situational and cognitive moderators in an experimental condition

re

# Qualitative



Semi-Structured Interviews



Refine and explain  
statistical results

# Semi-structured Interviews

1. How SHOULD project managers apply the PMBoK?
2. How DO project managers apply the PMBoK, in the actual sense?
3. How do Project managers respond to time constraints (Pressure) in project decision making?
4. How do Project managers respond information insufficiency in project decision making?
5. What determines the choice of tools and/or techniques in a project situation?
6. Why is “inaction” not an acceptable (or popular) form of action in project management practice?
7. How would you interpret the role and responsibility of a project manager in a failed project context?
8. Based on the PMBoK, do you think project managers are sufficiently equipped to improve a failing project or a failed project?
9. Based on your experience, how would you define a failed project?
10. Based on your experience, how do biased decisions contribute to project management practice?
11. What is your opinion about bias in project management practice?

Sample constrained to PMI Certified PMs



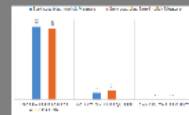
# Analysis

## Snapshot of results

128 Survey responses (90 valid) coupled with 5 interviews

### Escalation of Commitment (Sunk Cost)

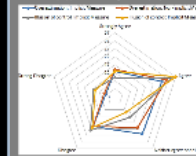
In spite of the awareness of the possibility of cost overrun and consequent project failure, project managers choose to continue with the project as well as increase allocation



Project managers are disposed to preserving the organisation's record of project success

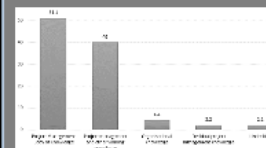
### Overconfidence

"A CERTIFIED Project manager is sufficiently well placed to manage these projects"



The measure for overconfidence increased in the un-timed section compared to the time-constrained section

### Influence of the PMBoK



While most respondents do perceive the PMBoK is the most reliable source of project management knowledge, the level at which they engage with the PMBoK was only moderate

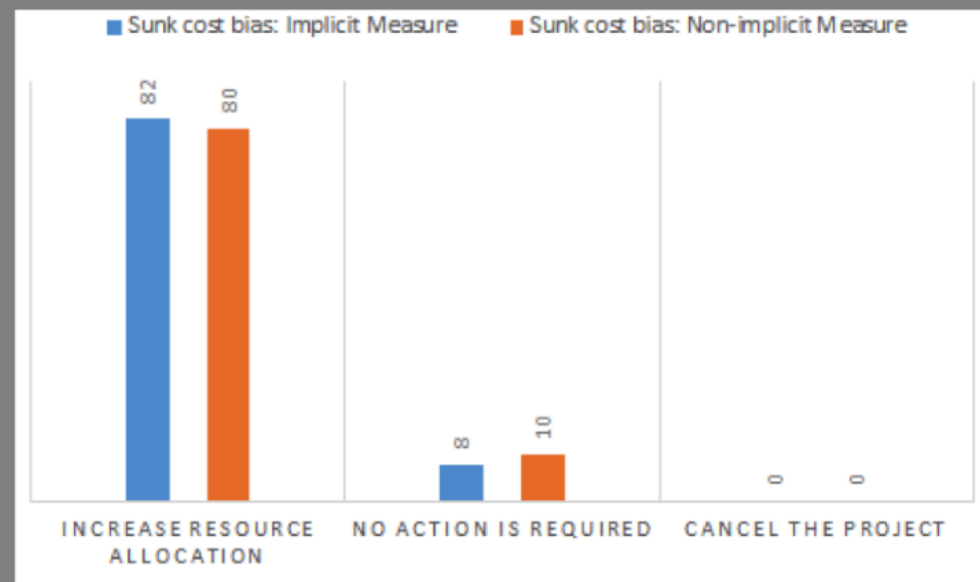
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# Escalation of Commitment (Sunk Cost)

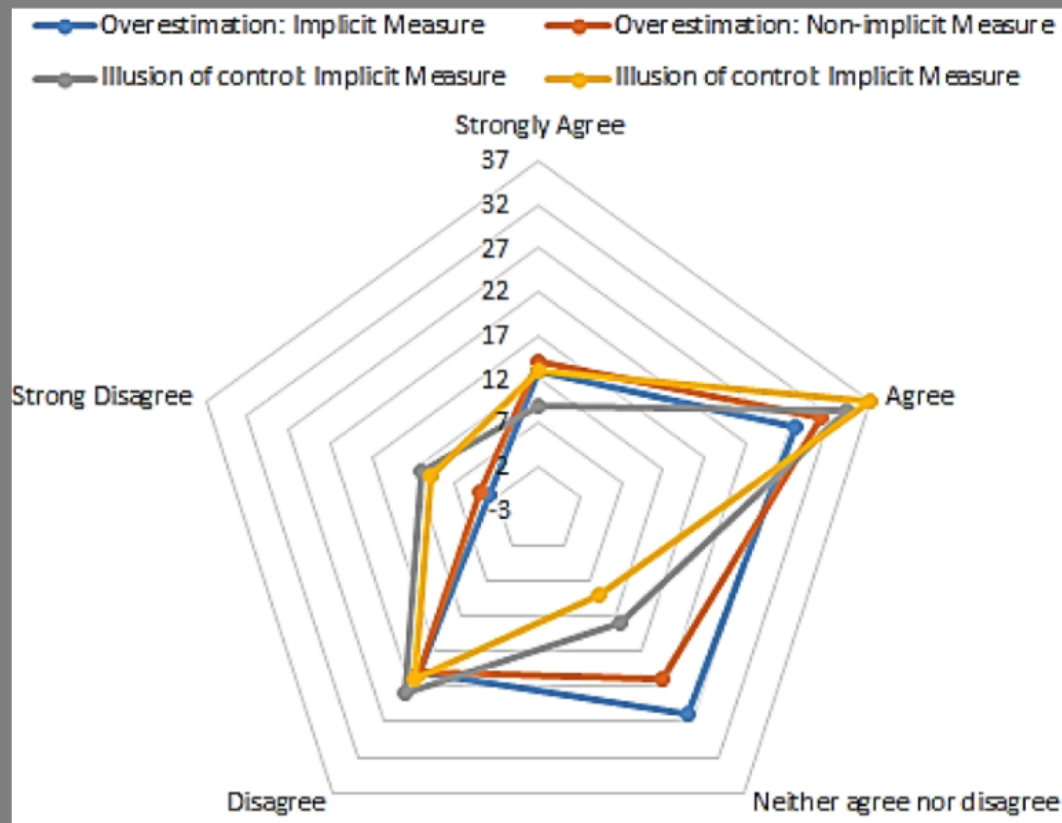
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# Overconfidence

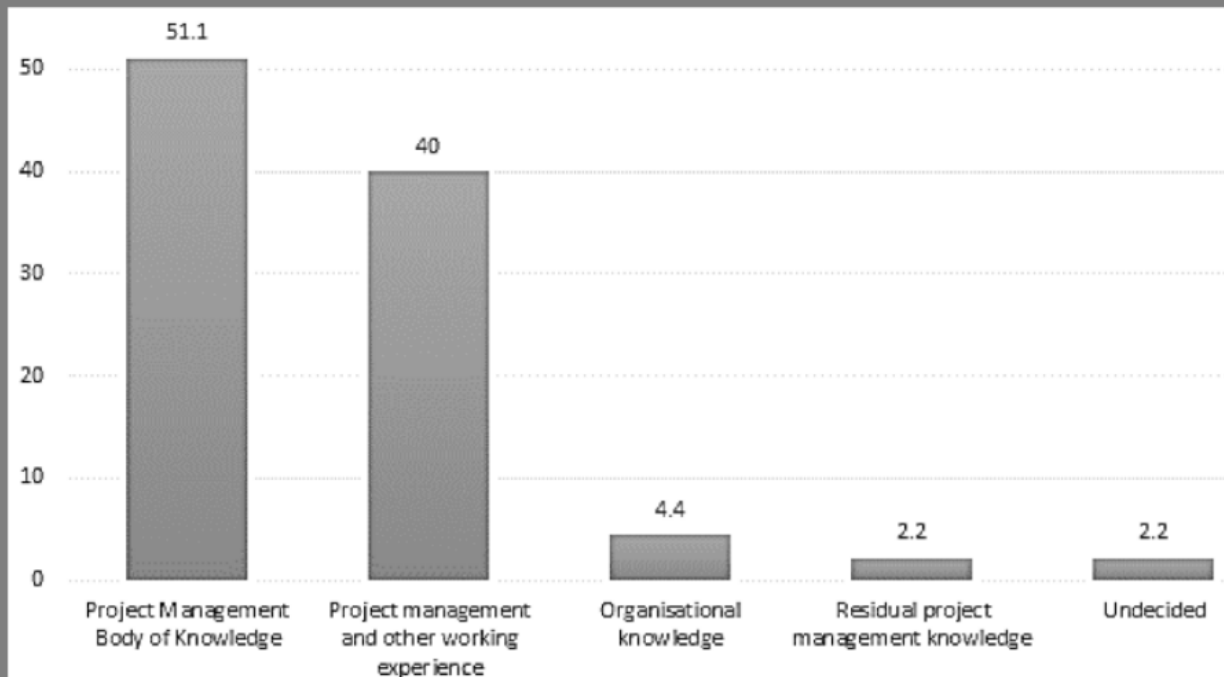
"A CERTIFIED Project manager is sufficiently equipped to manage most projects"



The measure for overconfidence increased in the un-timed section compared to the time-constrained section



# Influence of the PMBoK



While most respondents do perceive the PMBoK is the most reliable source of project management knowledge, the level at which they engage with the PMBoK was only moderate

# Conclusions

"Like other human endeavors, project management practice is influenced by bias"



"Project managers are more likely to make biased decisions in time constrained conditions and when data is scarce"

"Evidence suggests that the use of the PMBoK contributes to professionally induced bias, although this may be substituted with experience over time"



"Project managers are likely to use the PMBoK to support biased decision making in post rationalization mode"

"Some project management practices may indirectly contribute to behaviors which promote flawed project decisions and consequently lead to failed projects."

# Implications

There is a dynamic (and complex) connection between project environment, PMBoK, and the project management behaviour of the project manager.



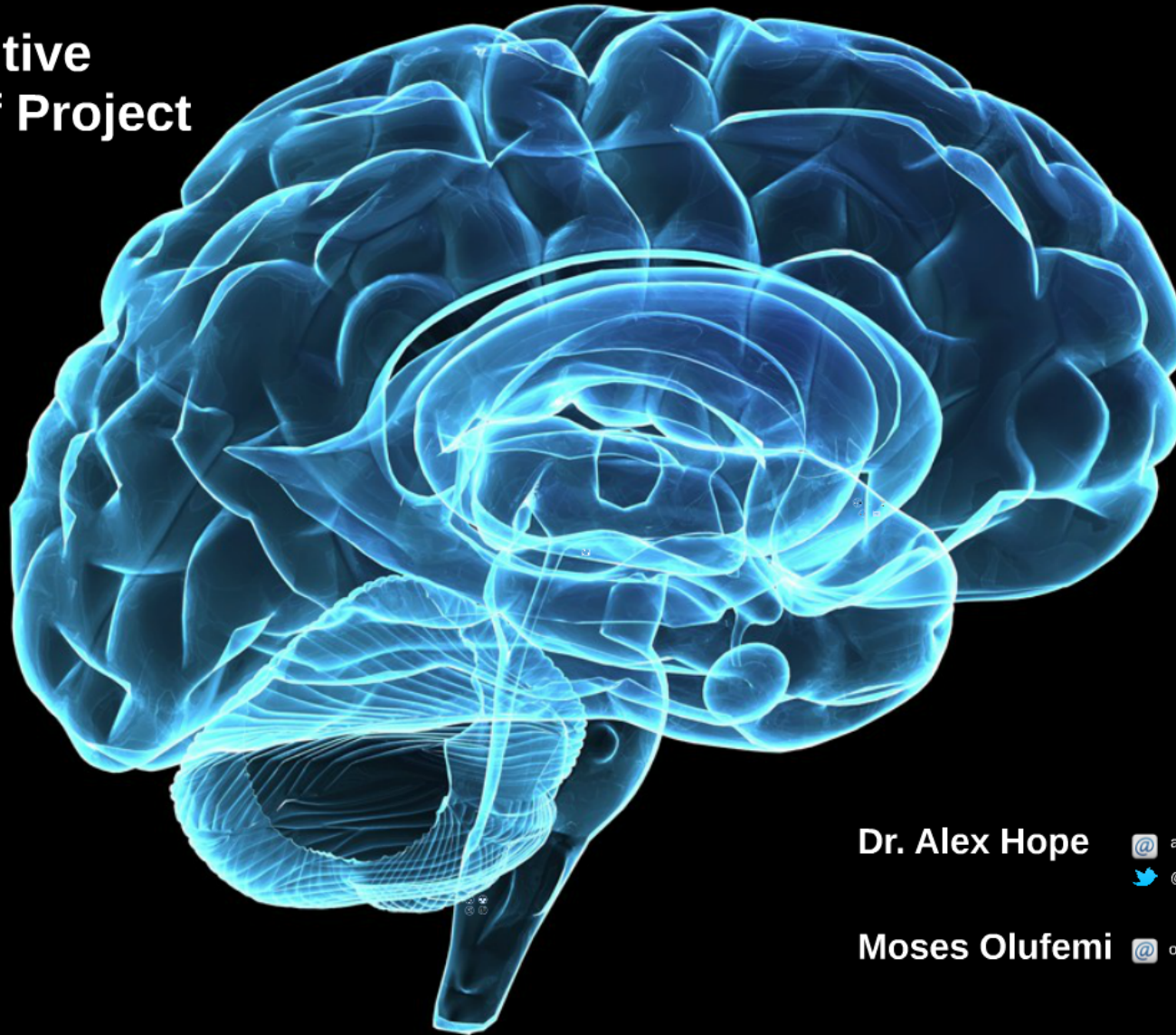
Tools such as contingency planning be adapted to cater for biased judgement. Given that time constraints induces some degree of bias, this implies that contingency plans should be more focused on time buffers compared to cost buffers

Also, PMO interventions should also provide effective mechanisms of minimizing information paucity.



Modifying the context of the PMBoK to reflect the realities of failed project and to empower project managers with performance improvement skills.

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